



Transportation Engineering and Road Research Alliance

STRATEGIC PLAN

FY 2014-FY 2016

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Strategic Planning Background

The Transportation Engineering and Road Research Alliance (TERRA) is a road research governance structure that will facilitate a comprehensive research program, with strategic focus to take advantage of the MnROAD test facility and associated resources. TERRA was created after a task force of government, industry, and academic representatives investigated road research governing structures and evaluated ways to broaden the use of the unique MnROAD research facility.

An initial planning session was held on Friday, December 10, 2004 to develop strategic directions and confirm a three-year business plan. In an effort to build national partnerships and maintain a broad perspective in the pavement research area, TERRA invited public and private industry stakeholders to share their expertise and knowledge during this important planning step for the new organization. A full Strategic Planning Meeting Report is available upon request.

In October 2007 the TERRA Board held another strategic planning session to evaluate the status of the organization and provide vision for the next five years. A full report from this meeting is available upon request.

Recognizing a large growth in membership, TERRA held a third strategic planning session in August 2012. The goals of this session were to: re-affirm or adapt the vision and mission of the organization to best reflect the future direction of the alliance; identify and approve priorities TERRA members wish to continue, expand, discontinue, or undertake in the future; and to establish principles and guidelines for the operational structure of the organization. A full report from this meeting is available upon request.

This Strategic Plan highlights the progress made at the strategic planning session held in 2012—as well as the follow up work of a subcommittee formed at the direction of the TERRA board—and provides further explanation of the long-term direction of the organization. The document will be reviewed and updated as directed by the TERRA general assembly.

TERRA Strategic Advantage and Value

While this document will outline key strategic purposes of the organization, there are additional elements that demonstrate the unique value of TERRA as a boundary-spanning alliance.

- TERRA fills an important and unique niche that no other organization is currently filling
- TERRA enjoys strong foundational commitment among its members
- TERRA has strong core initiatives (e.g. Innovation Series, Pavement Conference, MnROAD)
- The multi-sector nature of TERRA is vital to:
 - Anticipating research needs and moving to demonstration and implementation
 - Leveraging and “bundling” resources
 - Ensuring both innovation *and* relevance

Environmental Scan

Listed below are external parties who may be interested in outcomes of the TERRA organization in order to gain further knowledge in the road research trend areas described.

Customers

Customers are those that are interested in products and services brought about by the leadership of the TERRA Board and the research using the MnROAD facility. Examples include:

- Transportation engineers
- Transportation policy makers
- Road research personnel
- Product Producers

Stakeholders

Stakeholders include, but are not limited to, the following:

- American Association of State Highway & Transportation Officials (AASHTO)
- State DOTs
- Local and Regional Transportation Organizations
- International Transportation Organizations
- Industry Associations
- Consultants
- Federal Highway Administration
- Legislature
- Materials Suppliers
- Pavement Research Facilities
- Private Industry
- Transportation Research Board (TRB)
- Universities

Major Trends

The major trends in road research are in the following areas:

<i>Sustainability</i>	Sustainability research includes understanding the impact transportation has on the environment and society, and how it can contribute to achieving sustainability for economic growth, social equity, and a healthy environment. This includes developing innovative uses of alternative materials, sustainable design and construction methods, and recycling of materials from within and outside the industry.
<i>Infrastructure Preservation and Rapid Renewal</i>	The aging transportation infrastructure needs innovative design, materials and construction techniques that enable preservation and renewal of pavements and structures, with minimal disruption, long-lasting results, and high return on investment.
<i>Innovative Construction</i>	The goal of Innovative Construction is to quickly deliver high quality, safe, cost-effective transportation projects. This is being developed through the use of alternative contracting and construction methods, innovative design and application of new technologies.
<i>Safety</i>	Highway safety encompasses a broad field that includes improvements to roads, vehicles, traffic operations, education, enforcement, emergency services and driver behavior.
<i>Congestion</i>	Increased congestion creates emphasis on the need for Innovation in capacity and multi-modal solutions, safety considerations, the need for long life pavements, mobility, and accessibility.

TERRA Strategy

Mission

Enhance the performance and sustainability of the transportation system by developing, communicating, and facilitating implementation of a comprehensive research program on pavement, materials, and related transportation engineering challenges, including issues related to cold climates.

Vision

A dynamic partnership of government, industry, and academia that continuously advances innovations in road engineering and construction.

Purpose

TERRA exists to:

- Anticipate and identify future transportation engineering and road research needs and guide research investments accordingly
- Exchange information, share ideas, and learn research results
- Ensure strategic implementation of research results in the field
- Create opportunities for cross sector relationship development, collaboration, and innovation
- Build coalitions of key public, industry, academic and other program partners to contribute and leverage resources
- Expand entrepreneurial use of the capacity and capabilities of the MnROAD facility by pursuing opportunities to serve a broader research community

In addition, TERRA will maintain a primary focus on pavements, as well as cold climate-related issues and topics. However, the organization will maintain sufficient flexibility to accommodate other member needs and interest when clear demand exists.

Strategic Directions

- Define and launch a bold and synergistic research agenda
- Promote and be a catalyst for implementation of research results “on the ground”
- Capitalize on TERRA’s unique role as a multi-sector forum to provide multiple research interchange opportunities (virtual and in-person)
- Engage existing membership and further expand the organization to ensure ongoing focus on mission, vision, and strategic advantages
- Develop governance and operating structures that assure a thriving, adaptive, and sustainable organization

Strategic Directions

Define and launch a bold and synergistic research agenda

A research agenda that *expands* beyond a MnROAD focus; *leverages* the power of the group; *utilizes* diverse funding sources and sponsors; *engages* and benefits members and *is recognized* nationally

Related goal elements:

1. TERRA takes on technology/economic challenges within its scope and benefits TERRA members in such areas as CO2 reduction, long-life pavement, 100 % recycling, rapid construction, etc.

2. TERRA leads highly collaborative research
 - Joint work between government and industry and even between competitors in the industry
 - Individual TERRA members support research projects through resource commitments
 - A delivery model that addresses the needs of all partners/stakeholders and defines each party's role in research projects (e.g. project identification, participation in the research process, providing research funding etc.)
3. TERRA is known for its exemplary and effective research

Promote and be a catalyst for implementation of research results “on the ground”
 Successful and visible implementation of transportation engineering and road research applications

Related goal elements:

1. Research results are put into practice through a “rubber meets the road ” approach
 - Research implementation produces short-term results in new products, services and practices
 - Implement innovations that demonstrate how research costs pay-off in benefits
 - Demonstrate the benefit of shared leadership among industry, academia and government
2. TERRA innovations are implemented elsewhere outside the alliance

Capitalize on TERRA’s unique role as a multi-sector forum to provide multiple research interchange opportunities (virtual and in-person)
 Continuous learning and sharing that enables members to *educate* each other and adapt to politics and a changing world through easily accessible information and ongoing exchange

Related goal elements:

1. TERRA serves as a “go to” group for...
 - ...communication and exchange of research results and progress to/among target audiences
 - ...new and innovative ideas for discussion, vetting, evaluation
2. Active technology transfer through support mechanisms, information exchange and marketing
3. Proactive marketing and implementation of plans
4. The TERRA research process is recognized as generating credible, effective, and high quality research

Engage existing membership and further expand the organization to ensure ongoing focus on mission, vision, and strategic advantages
 New members identified, recruited and invited to increase TERRA’s research breadth, depth and resources

Related goal elements:

1. More stakeholders from state, local government, industry, academic/ research sectors are included as members
2. TERRA has champions outside Minnesota including key people from many Departments of Transportation.
3. Proactive recruiting results in a broader membership representing key niches

4. More international participation and research in multiple locations
5. Many things flow and follow from an expanded alliance

Develop governance and operating structures that assure a thriving, adaptive, and sustainable organization

Constant improvement of operational structures, roles, agreements and practices that assure a thriving, sustainable and changing organization

Related goal elements:

1. Operations have a strategic focus but maintain the ability to be opportunistic and look for near-term gains
2. Financial stability enables TERRA to “make it” and be recognized as an important and necessary research entity
3. A revised structure adds value to partners, engages more members and coordinates member activities effectively
4. TERRA has defined an effective means to develop intellectual property rights (e.g. set up a “Rent a Site” facility or cell, find other ways to conduct cooperative research, address the proprietary nature of TERRA research, etc.)

Performance Measures

Each TERRA committee (see the TERRA Operations Plan for more details on the committee structure) has identified several measures on which to gauge performance. The General Assembly focuses on activities related to providing effective transportation engineering and road research; the Membership Engagement Committee focuses on activities related to expanding productive research partnerships; and the Communications Committee focuses on activities related to communicating transportation engineering and road research activities, benefits, and results.

Research (General Assembly) Performance Measures

Related to Strategic Directions: Defining and launching a bold and synergistic research program; implementing research on the ground; setting up activities that enhance TERRA’s role as a dynamic forum for research interchange

- Number of research project ideas considered by TERRA Research and Implementation Committee
- Number of research projects initiated by TERRA
- Funding level from research projects initiated by TERRA
- Number of research implementation highlights

Membership Engagement Performance Measures

Related to Strategic Direction: Expanding TERRA’s membership proactively

- Number of organizations represented on board
- Number of new members
- Number of partner organizations
- Number of Research Project Ideas Submitted

Communications Performance Measures

Related Strategic Directions: Implementing research on the ground; setting up activities that enhance TERRA's role as a dynamic forum for research interchange

- Number of recipients of TERRA e-newsletters
- Number of visits to TERRA website
- Number of participants at TERRA events/demos
- Number of TERRA publications